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A Homogeneity Grouping and Scaling Technique for Geophysical Climate Models

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Abstract

A new technique for determining subgrid cell homogeneity is presented. This homogeneity testing scheme dynamically and systematically groups regions of the same characteristic types in such a way that computation is minimized by as much as an order of magnitude. Dynamically nested grids can be developed based on the resulting groups such that temporal and spatial changes can be updated and modeled with increased accuracy during a climatic simulation. This dynamic adaptive gridding technique depends only on the available temporally and spatially varying input data. It can be applied initially and then be used to update and reformulate grids at any specified time. Hydrological applications of this tool are discussed here and in the following section of this conference (Miller HS8/OA9).

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2. HS7/NP1.1

3. (Please provide this information)

4. Standard Equipment

5. Oral Presentation